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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 10**  
1200 Sixth Avenue  
Seattle, Washington 98101

January 29, 1998

Reply to  
Attn Of: ECL-113

Brian W. Stone, P.E.  
Project Manager  
RETEC  
1011 S.W. Klickitat Way  
Suite 207  
Seattle, WA 98134

RE: Harbor Island Superfund Site  
Soil and Groundwater Operable Unit (S&GW OU)

Dear Mr. Stone,

This responds to your November 7, 1997, letter which requests a modification of the performance standard for asphalt concrete pavement that is contained in the S&G OU Record of Decision (ROD). Your request was to change the standard from a permeability-based standard of  $1 \times 10^{-5}$  cm/sec to a compaction-based standard. We have carefully reviewed your request. However, based on our review of existing information, we are not prepared to change the existing standard.

Page 73 of the ROD states, "Capping, with proper long-term maintenance, will decrease the migration of inorganic contaminants from the hot spots by reducing the infiltration of rain water and the potential for migration of these contaminants into the groundwater." A permeability standard was identified for the asphalt cap because the amount of infiltration reduction through the cap is directly related to permeability of the asphalt. As you point out in your letter, the existing WASHDOT compaction standard is not designed, nor intended, to minimize infiltration.

The testing you've done shows that a certain degree of permeability can be expected given certain levels of compaction. However, the permeability you expect to be able to achieve in the field (approximately  $1 \times 10^{-4}$  cm/sec) is about an order of magnitude more permeable than what the ROD requires ( $1 \times 10^{-5}$ ). To justify changing the ROD requirement, we would require a technical analysis that demonstrates that a cap of  $1 \times 10^{-4}$  permeability would provide substantially the same level of protection as a cap of  $1 \times 10^{-5}$ .

We have given some thought to the type of technical analysis that would be appropriate

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to make such a demonstration (see attached memorandum). This type of analysis would likely be costly and time-consuming to conduct. EPA is concerned that conducting such an analysis could unnecessarily result in delays to the overall cleanup process.

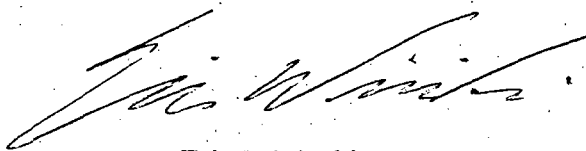
Based on available information, we believe that asphalt meeting the ROD permeability requirement is technically achievable and cost effective. My understanding is that the primary cost involved in running a low permeability custom batch is a fixed cost of the asphalt producer changing their setup to mix the same asphalt ingredients in a different proportion. The large amount of asphalt that's needed for the cap should effectively spread out this fixed cost over a large amount of product, resulting in a relatively low cost difference between an off-the-shelf mix and a custom mix on a per-unit basis.

In a recent phone conversation you raised a concern about the expected high cost of mixing small custom batches of asphalt for future repairs of the cap following installation. A possible solution to this problem may be to stockpile a portion of the initial custom mix and reheat it in the future when repairs are necessary.

EPA is interested in continuing to move ahead with the cleanup at this site. Based on our concerns, we encourage you to proceed with using the permeability standard currently in the ROD. If you are interested in doing the work we would require to evaluate whether a change in the standards is justified, you should bear in mind that we're not prepared to allow any delays to the agreed-upon schedule so that this evaluation can be performed.

If you have any questions or concerns regarding this letter, please call me at (206) 553-6904.

Sincerely,



Eric Winiecki  
Remedial Project Manager

cc: Anita Wong Lovely, Lovely Consulting  
Elizabeth Leavitt Stetz, Port of Seattle  
Mark Valentine, De Maximis